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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,141	04/02/2004	John L. Stoffel	200400537-1	1498

22879 7590 10/30/2006

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EXAMINER

CORDRAY, DENNIS R

ART UNIT PAPER NUMBER

1731

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/817,141

Applicant(s)

STOFFEL ET AL.

Examiner

Dennis Cordray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 5-20 is/are rejected.
7) ☒ Claim(s) 21-28 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The replacement drawings received on 9/6/2006 accepted.

Response to Arguments

Applicant's amendments, filed 9/6/2006, have overcome the rejections of Claims 1-3 and 5-20 under 35 U.S.C. 102(a and e). The rejections have accordingly been withdrawn. Applicant's arguments, see pp 10-12, filed 9/6/2006, with respect to the rejection of claim 4 under 35 U.S.C 103(a) have been fully considered and are persuasive. Although Claim 4 has been cancelled, the content thereof has been incorporated into Claims 1 and 12 as amended. Therefore, the rejection has been withdrawn.

However, upon further consideration, new grounds of rejection are made as detailed below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 5-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al (EP 1172224 A1) or Nigam (US 2003/0219539 A1) or Nigam (6291023 B1) in view of Abe et al (5372884) and Nakamura et al (US 20030082473).

Miyamoto et al discloses a recording material (printing paper) comprising a substrate and a polymeric polyguanidine salt (Abstract). The recording material can also contain an inorganic pigment, such as calcium carbonate, calcium sulfate, barium sulfate, calcium silicate and aluminum silicate (p 5, par 32), which are polyvalent metallic salts of group II or III metals. The polymeric polyguanidine salt is present in an amount from 0.01 to 10 g/m² (p 3, par 12). The polymeric polyguanidine salt can be added during the papermaking process to a paper made from a fibrous mixture or coated on the paper after manufacture (p 4, par 28). In the former case, the polymeric polyguanidine salt is intimately mixed with the fibers while the paper is formed. A suitable use for the recording material is given as ink-jet printing (p 2, par 6). Paper recording materials are made using the polymeric polyguanidine salt on various papers (pp 7-9, pars 45-48, 51-54, 57-60).

Nigam ('539) discloses a coated paper for printing that comprises a fibrous substrate, a guanidine polymer and a pigment, such as calcium carbonate (Abstract; p 9, par 202). The fibrous substrate can be saturated with the coating (p 13, par 214), thus the guanidine polymer and pigment are disposed within the fibrous component of the substrate. The coating amount is typically 2 to 30 g/m² (p 13, par 212) and the guanidine polymer is 5-95% of the coating composition by weight (p 9, par 151). Thus, the guanidine polymer is applied in an amount from 0.1 to 28.5 g/m², which significantly overlaps the claimed range. The coating can be applied to a paper substrate used in printing using any conventional process, including surface and saturation methods (p

13, par 214). Textiles suitable for the coating include those made from natural or synthetic fibers (p 13, par 211). The steps of providing a fibrous component, providing the cationic guanidine polymer and metallic salt (pigment), and forming the substrate are inherent in the process. Introducing and mixing the cationic guanidine polymer and metallic salt with the substrate are performed by the coating process.

Nigam ('539) also discloses the claimed guanidine structures I and II (p 8, pars 128-134).

Nigam ('023) discloses a coated paper for ink-jet printing that comprises a fibrous substrate, a guanidine polymer and a pigment, such as calcium carbonate (Abstract; col 1, line 66 to col 2, line 5; col 2, lines 55-67; Claims 22-24). The fibrous substrate can be partially or wholly saturated with the coating (col 2, lines 65-66). The coating composition is applied in an amount from 50 to 500 lb/ton of substrate (col 3, lines 5-9) and the guanidine polymer is 1-100% of the coating composition by weight, or from 0.5-500 lb/ton of substrate (col 6, lines 56-59). Using a conversion factor taught by Nigam (US 2003/0219539 A1) that a coating amount of 50-500 lb/ton of substrate (for ink-jet printing paper) is equivalent to about 2 to 30 g/m², derived (p 13, par 212), the coating of guanidine polymer is applied in an amount from about 0.02 to about 30 g/m², which significantly overlaps the claimed range. Examples are given of coating compositions having from 4.8-50% of guanidine polymer (corresponding to an application amount of 0.1 to 15 g/m²). In the same examples, the amount of pigment used is from 20-40% by

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weight (corresponding to an application amount of 0.4 to 12 g/m²) (col 19, Table 2).

The exemplary ranges also significantly overlap the claimed ranges.

Nigam ('023) also discloses the claimed guanidine structures I and II (col 8, line 40 to col 9, line 20).

Nigam ('023) discloses a process wherein the coating composition is applied by any conventional coating process, including surface coating and saturation techniques. The coating can infiltrate the paper, thus can be disposed within the fibrous component of the substrate (col 13, lines 16-50). The substrates can be additionally treated (sized) before or after application of the coating composition, or the coating composition can be incorporated into an external sizing process so that sizing and coating are conducted in a single step (col 12, lines 59-67). Textiles suitable for the coating include those made from natural or synthetic fibers (col 12, lines 47-53). The steps of providing a fibrous component, providing the cationic guanidine polymer and metallic salt (pigment), and forming the substrate are inherent in the process. Introducing and mixing the cationic guanidine polymer and metallic salt with the substrate are performed by the coating process.

Nigam ('023) discloses printing media produced using the coating composition and used for ink-jet printing (cols 19-20, Example 3).

Miyamoto et al, Nigam ('539) and Nigam ('023) do not disclose a substrate having the claimed metallic salts disposed within the fibrous component of the substrate.

Abe et al discloses an ink jet recording sheet having a fixing agent such as aluminum chloride added to the stock and contained within the base paper (Abs; col 5, lines 46-48 and 59-61).

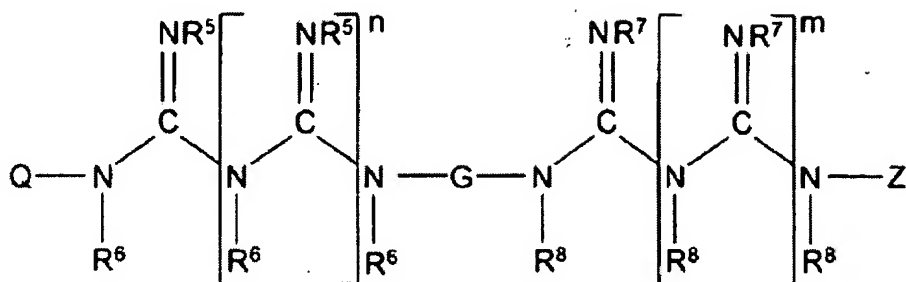
Nakamura et al discloses an image receiving sheet for electrophotography that contains a fixing agent such as aluminum chloride added to the stock and contained within the base paper (Abs; p 1, par 15; p 2, par 20).

The art of Miyamoto et al, Nigam ('539), Nigam ('023), Abe et al, Nakamura et al is analogous as pertaining to recording papers containing metallic salts within the paper substrate. The two references, Abe et al and Nakamura et al demonstrate that it has long been known to incorporate fixing agents into substrates used for recording papers. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate aluminum chloride as a known fixing agent into the paper stock of Miyamoto et al or Nigam ('539) or Nigam ('023) in view of Abe et al and Nakamura et al as a typical additive to papermaking stock. Determining the required amount of fixing agent would involve only routine experimentation by one of ordinary skill in the art.

Allowable Subject Matter

Claims 21-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Guanidine polymers of the general formula



shown on p 10 of the instant Specification are disclosed in prior art (see Nigam '539, p 10, Ipar 165), the group G has been limited to a straight or branched alkyl, alkenyl or alkynyl group, substituted or unsubstituted. The claimed polymers are not disclosed or made obvious by the prior art.

Regarding the metallic salts of Claims 22-24 and 26-28, the prior art has employed the claimed metallic salts in conductive surface coating layers for recording papers (see Kato et al, 4168165) or in coating layers used to fix images to recording paper (see Doi et al, 6261353). There is no teaching that they could be used in place of the aluminum chloride fixing agent. Prior art thus does not disclose or make obvious incorporating the metallic salts into the fibrous substrate.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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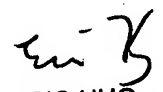
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DRC


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PRIMARY EXAMINER